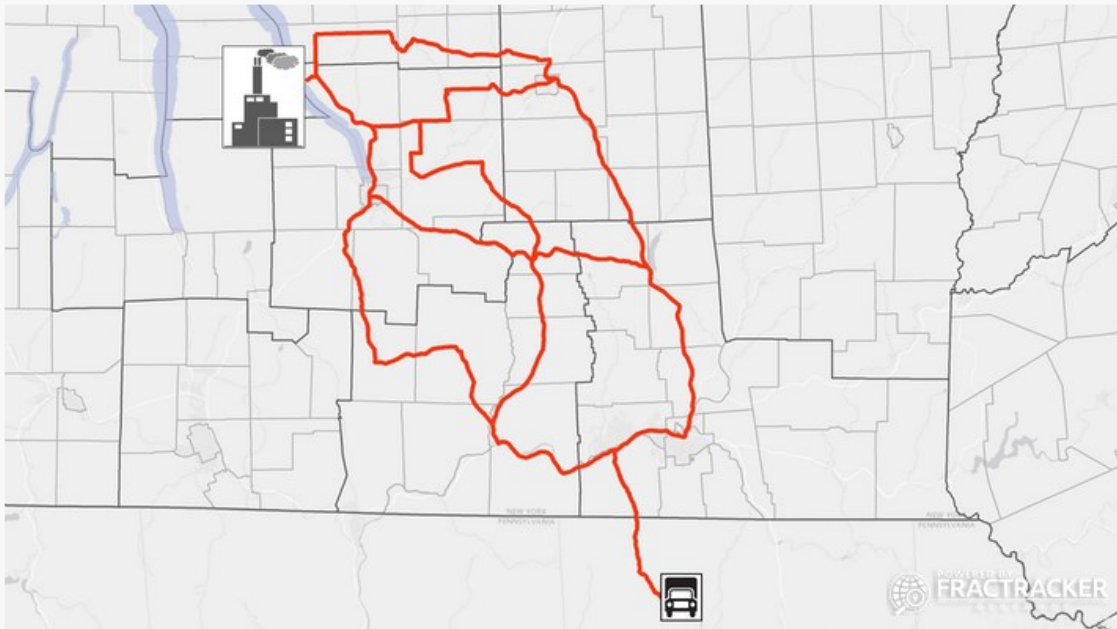




Virtual pipelines: Convenient for Industry, a Burden on Communities

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As the natural gas industry faces harsher and more widespread critiques from environmentalists and citizens, pipeline projects are facing delays, fines, and defeat. Aside from the [questionable economics](#) behind transporting gas and oil by pipeline, there are [broad economic risks](#) associated with pipeline accidents. With an increasing [list of pipeline-related accidents](#) in the public eye, including the two [this past summer in Texas](#) and [Kansas](#), blasts this [fall in Beaver County, PA](#), and [in Boston, MA](#), scrutiny of new pipeline projects is on the uptick.

That being said, what is the alternative?

Virtual Pipelines?

Industry, not deterred by resistance from regulators and environmentalists, has developed a new work-around method to get their product to market. Rather than build pipelines across rugged, remote, or highly-populated terrain, a new “solution” called “[virtual pipelines](#)” has come on the scene, with roots in New England in 2011.

The term “virtual pipeline,” itself, is so new that it is trademarked by [Xpress Natural Gas](#) (XNG), Boston, MA. XNG and other virtual pipeline companies use



Loaded CNG transport vehicle

specialty-designed tanker trucks to move compressed natural gas (CNG) or liquefied natural gas (LNG) via our public roads and highways. CNG in this system is under very high pressure — up to 3,600 psi when tank trailers are full. Rail and barge shipments are also considered part of the system, and trailers are designed to be easily loaded onto train cars or boats.

For the gas industry, virtual pipelines can be used in locales where gas is only needed for a limited time period, the pipeline network is not developed, or opposition by landowners is too contentious to make eminent domain an option, among other issues.

Restricted only by permissible weight limits on roads (up to 80,000 pounds or more), 5-axle trucks may make in excess of 100 round trips a day from the fueling location to their destination — sometimes hundreds of miles away. These trucks, which may travel alone or in caravans, are identifiable by the hazard class 2.1 placard they carry: **1971**, indicative of flammable, compressed natural gas or methane. Manufacturers of these virtual pipeline rigs tout the safety considerations that go into their engineered design. These considerations include special pressure monitoring for the dozens of tanks and super-strength materials to protect against ruptures.



Specialized equipment has been created to load compressed gas tanks into the trailers that will carry them to their destinations. Here's a promotional video from Quantum:

Loading CNG into specialized trailers for transport

Impacts on Communities

Following New York State's rejection of the Constitution Pipeline in 2016 based on water quality concerns, industry has been looking for ways to move natural gas from Pennsylvania's Marcellus gas fields to the Iroquois Pipeline. The current strategy is to load the gas in canisters from a special compressor facility, and re-inject the gas to a pipeline at the journey's endpoint. The extent to which virtual pipelines may be utilized in New York State and New England is not well known, but the natural gas industry does speak in sanguine terms about this strategy as a solution to many of its transportation issues.

Citizen blogger/activist [Bill Huston](#) has compiled a list accidents that have occurred with CNG transport trucks along the virtual pipeline that runs from a "mother station" at Forest Lake, PA to Manheim, NY, near the Iroquois pipeline. While there have been no explosions or loss of life as a result of these accidents, there are a number of reported incidents of trucks tipping or rolling over, sliding off the road, or spontaneously venting.

To move CNG from "Point A" to "Point B," truck traffic through populated areas is unavoidable. In central New York, public outcry about virtual pipelines is rising, due in large part to the safety issues associated with increased truck traffic on state highways. In rural New York, state highways run through towns, villages, and cities. They are not separated from population centers in the way that interstate highways typically are. Traffic from CNG transport trucks clogs roadways, in some cases burdening the pass-through communities with 100 or more tractor trailers a day. Routes pass directly in front of schools and health care facilities.

In short, virtual pipelines present a public safety hazard that has yet to be addressed.

Virtual Pipelines and the Cayuga Power Plant

In Lansing, NY, there is an inefficient and economically-beleaguered power plant, currently run on coal, that the power utility would prefer to see shut down. The Cayuga Power Plant was [cited in 2016](#) for

exceeding mercury emissions by nearly 2000%. Its inherently inefficient design makes it a significant greenhouse gas contributor. Years ago, it provided considerable tax benefits to its host community of Lansing, and as such has some lingering support. After both a devastating fire in one stack and mechanical failure in another, the plant has been barely running for the past 3 or 4 years. It is currently used as a “[peaker plant](#)”, operating only during periods of excessive demand on the electric grid, during summer months.

New York State’s Governor, Andrew Cuomo, has stated that all coal-power plants will be shut down by 2020.



Cayuga Power Plant in Lansing, NY.

Nonetheless, the plant owners are pushing to re-power the Cayuga Power Plant with natural gas. Currently, however, there is no pipeline to deliver the gas to the plant. Without support by the public nor the Public Service Commission for the construction of a supply pipeline, Cayuga Power Plant has revealed they plan to receive gas deliveries via truck.

Scenario Maps

FracTracker has modeled the five most likely scenarios that would take compressed natural gas from a loading station in northern Pennsylvania to the Cayuga Power Plant in Lansing. All of the scenarios bring the trucks through populated communities, in dangerous proximity to high-risk facilities where both human safety and evacuations are problematic. The routes also pass through intersections and road stretches that have some of the highest accident rates in the area.

Route 1	Route 2	Route 3	Route 4	Route 5
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Route 1: This route passes within a half mile of homes of 36,669 people in the Villages of Lansing, Candor, Spencer, Owego; Towns of Ithaca, Lansing, Newfield, Danby, Candor, Spencer, Tioga, Owego, Vestal; and the City of Ithaca. Within the half-mile evacuation zone of this route, should there be an



accident, are:

- 17 health care facilities
- 20 day care centers
- 4 private school
- 21 public schools



Click on the tabs in the box above to explore the five potential truck routes with maps.

Interactive Map

For a full interactive map of the potential routes for CNG delivery to the Cayuga Power Plant, and the schools, health care facilities, etc. within a half-mile evacuation zone of the routes, view the interactive map below.



[View map fullscreen](#) | [How FracTracker maps work](#)

A Call for Alternative Energy

Despite the apparent convenience that virtual pipelines present for the fossil fuel industry, they are *not* the solution the future energy supply needs. Yes, they present an alternative to pipeline transportation — but they also play a disastrous role in continuing our descent into climate chaos caused by increasing greenhouse gas concentrations in the atmosphere.

Methane leakage is an unavoidable component of the entire life cycle of natural gas usage — from “cradle to grave” — or more precisely, from the moment a well is drilled to when the gas is combusted by its end-user. And methane, as a greenhouse gas, is [up to 100 times more potent than carbon dioxide](#). The Intergovernmental Panel on Climate Change’s (IPCC) [recent report](#) (see summary [here](#)) is unflinching in its clarion call for immediate, and extreme, cut-backs in greenhouse gas production. If we choose not to heed this call, much of humanity’s future survival is called into question.

By [Karen Edelstein](#), Eastern Program Coordinator, FracTracker Alliance

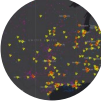
More of the details about the Cayuga Power Plant will be explained in the upcoming weeks in a related guest blog by environmental activist and organizer, Irene Weiser, of Tompkins County, NY.

Tags: Cayuga power plant, New York, New York State, NY, pipelines, public health, risk, safety, trucks, Virtual Pipelines

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